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Old-Time New England

THE BULLETIN OF

The Society for the Preservation of New England Antiquities

Courtesy Miss E. L. Coleman

Cutting Next Season's Firewood
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Vine-clad and tree-embowered, its old fashioned garden still glowing, its spacious grounds well kept, this lovely old mansion once identified with colonial history, is by no means a mere museum of the antique, but a home to be happy in, a centre for the housing of ideas and activities as well as things.

The Jamaica Plain Tuesday Club, a notable branch of the Women's Federation movement, has, after a three-year period of arduous endeavor, succeeded in buying and renovating this property. In the several campaigns for raising funds, perhaps the most significant contribution was the fifty-cent mite of the working woman who for years had waited for her car at the corner of the beautiful old estate. Indeed, so general was the community interest that much of the interior work of renovation was done gratuitously by local tradespeople as a gift.

The effort to save the old house was tremendous — the result in keeping with the expenditure of energy and enterprise, and the ceremonious burning of the mortgage in a brazier on the grounds a felicitous climax to the hard work of the individual club members.

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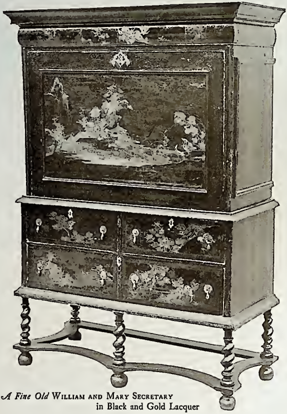

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The Aims of
The Society for the Preservation of
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The Society was organized in 1910 for the purpose of preserving for future generations the rapidly disappearing architectural monuments of New England and the antiquities connected with its people.

It owns and maintains thirteen houses built between 1651 and 1809 and located in various parts of New England; the "Quincy Memorial," Litchfield, Conn.; and the reversion of a house built in 1720.

It maintains a Historical Museum and Library at its Headquarters in the Harrison Gray Otis House (built 1795), 141 Cambridge Street, Boston.

Its endowment funds and real estate represent investments of $379,009.51.

It publishes OLD-TIME NEW ENGLAND, a quarterly illustrated magazine devoted to the ancient buildings, household furnishings, domestic arts, manners and customs and minor antiquities of the New England people. Subscription to this magazine is included in the annual membership fee.

Membership: Life ($60); active ($6); associate ($3) may not vote nor hold office.

Checks should be made payable to WILLIAM C. ENDICOTT, *Treasurer*, 141 Cambridge Street, Boston, Mass.

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To the Members of
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New England Antiquities

OLD-TIME NEW ENGLAND, the quarterly magazine published by the Society, is distributed gratis to its members. With a larger membership and consequent increase in income it will be possible to render a greater service by increasing the size of the magazine and adding to its pictorial features, and also by issuing six or more numbers each year. To bring this about the helpful assistance of members is needed to nominate for membership their friends and acquaintances, or, in fact, anyone who may be interested in the work of this Society and its illustrated magazine. If you will send us the names we will attend to all the details of correspondence. The membership of the Society is much larger than it was five years ago but the possibilities for increase are very great. Your coöperation will be highly appreciated and for your convenience a nomination blank follows:

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Life Membership, $60.; *Active*, $6.; *Associate*, $3.

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Harrison Gray Otis House, *car. Cambridge and Lynde Streets, Boston.* Built 1795, by Harrison Gray Otis, lawyer, orator, Federalist leader, Member of Congress, Mayor of Boston and U. S. Senator. The house, possibly designed by Bulfinch, has been restored and contains some fine finish. It is now the Headquarters of the Society. At the rear (entrance 12 Lynde St.) will be the historical museum of the Society. Open 9 a. m. to 5 p. m. Closed Saturday, at 1 p. m. Admission 15 cents. See *Bulletin*, No. 16, p. 1.

Swett-Ilsley Hoose, *High Street, Newbury, Mass.* 40 m. from Boston; on reaching Newburyport via the Turnpike, turn right on High St. and go ¾ mile. Old Bay road from Ipswich passes door. One-room house of two floors, built before 1670 by Stephen Swett; hewn overhang at southern end (original front). Additions at various dates. Hall fireplace 10 ft. 2½ in. wide; much old sheathing; first newspaper in Newbury printed here; later a tavern, now a tea house. See *Bulletiu*, No. 4, p. 1.

Samuel Fowler House, *High Street, Danversport, Mass.* 20 m. from Boston (leave Old Bay road at Salem; State road from Salem to Lawrence passes the door; leave Newburyport Turnpike at State Hospital for Insane). Built of brick in 1809 by Samuel Fowler; in original condition with much good trim and several interesting wall papers. Occupied by descendants who possess antique furniture, china, etc. Open every day. Admission 15 cents. See *Bulletin*, No. 6, p. 1.

Cooper-Austin House. 21 *Linnaean St., Camlridge, Mass.* 3 m. from Boston; 1 m. from Harvard Square; to left of Massachusetts Ave. (which leads to Lexington). Lean-to house built *ca.* 1657, by John Cooper, deacon of the First Church in Cambridge. West end added later. Partly restored; pilastered chimney top; fine house of its period. Now privately occupied and two rooms shown *anly* to members of this Society on presentation of membership tickets. See *Bulletin*, No. 6, p. 10; No. 7, p. 1.

Laws House, *Sharou, N. H.* 67 m. from Boston, about 6 m. from New Ipswich and 5 m. from Peterborough. Built *ca.* 1800; a cottage originally of two rooms, later doubled in size. At present unoccupied. Suitable for summer occupancy at a low rental. See *Bulletin*, No. 14, p. 4.

"Scotch"-Boardman House, *Howard St., Saugus, Mass.* 8 m. from Boston (leave Newburyport Turnpike at crossing of Saugus and Melrose street railway and follow tracks toward Melrose). Built in 1651 to house Scotch prisoners captured at the battle of Dunbar and brought to New England to work in the Saugus Iron Works. One of the best examples of 17th century houses remaining in New England; but little altered; lean-to; overhanging second story; early staircase and much original sheathing. See *Old-Time New England*, Vol. 12, p. 167.

Houses Owned by

The Society for the Preservation of New England Antiquities

Eleazer Arnold House, *Lincoln, R. I.* 38 m. from Boston (leave Boston-Providence State road. Highland Ave., So. Attleboro, and go through Valley Falls). Built *ca.* 1687, by Eleazer Arnold. A stone-end house with the best preserved stone chimney, with pilastered top, remaining in Rhode Island. Partly restored. Hall fireplace (stone) is 10 feet, 9 inches wide. At present not occupied. See *Bulletin*, No. 19, p. 1; also No. 20, p. 4.

Abraham Browne House, *562 Main Street, Watertown, Mass.* 6 m. from Boston (about three-quarters of a mile beyond Watertown Square on road towards Waltham. Built 1663(?) by Abraham Browne, Jr. One-room house of two floors (later enlarged) contains only original 3-part casement window frame known in New England. House restored and occupied by a custodian. Museum of architectural remains, tools and antiquities forming in adjoining buildings.

See *Old-Time New England*, Vol. 11, p. 24.

Quincy Memorial, *Litchfield, Conn.* 175 m. from Boston, in central western Connecticut. This house, known as "Ardley," was built in 1904 by Miss Mary Perkins Quincy, who devised it to the Society in 1922, with an endowment. Subject to possible private use during one life, the building may later be maintained as an historic center for family heirlooms and collections of lace, with class rooms for lace making. Occupied by a custodian; no admission. See *Old-Time New England*, Vol. 13, p. 177.

Conant House, *Townsend Harbor, Mass.* 45 m. from Boston, middle of village, within 100 yards of State road from Littleton Common to Ashby. Earliest part built *ca.* 1720, by John Conant. Much early sheathing and examples of stenciled dado. Formerly a tavern; has a hinged partition between two parlors formerly used for dancing. Privately owned and occupied, but the Society owns the reversion to the property. Admission only by arrangement with the owners. See *Old-Time New England*, Vol. 12, p. 164.

Jackson House, *Portsmouth, N. H.* 60 m. from Boston (the house is located on Jackson Hill St. on "Christian Shore," ⅛ mile from the railroad station, just off the road to Dover). Built *ca.* 1664, by Richard Jackson and supposed to be the oldest house in Portsmouth. A picturesque house but little altered. The end and lean-to are additions. Repairs and restoration not completed. Admission 10 cents, apply at adjoining house.

See *Old-Time New England*, Vol. 15, p. 25.

Chaplin-Clarke-Williams House, *Bradford St., Rowley, Mass.* 35 m. from Boston, about half-way between the Newburyport Turnpike (turn off at the "Four Corners") and the Old Bay road (turn off ⅛ mile from Rowley Common). Built *ca.* 1671, by Joseph Chaplin, and is the oldest house now standing in Rowley. House embedded in the hillside, cellar at one end on first floor, lean-to roof, and two hewn overhangs at one end.

See *Old-Time New England*, Vol. 16, p. 98.

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Ownership statement of Old-Time New England, in accordance with the Act of Congress of August 24, 1912. Editor, William Sumner Appleton. Managing Editor and Business Manager, George Francis Dow. Owner, The Society for the Preservation of New England Antiquities, Charles Knowles Bolton, President; William Sumner Appleton, Corresponding Secretary; William C. Endicott, Treasurer. Stockholders and Bondholders, none. George Francis Dow.

Sworn to and subscribed before me this 21st day of September, 1927.
W. D. Richardson.
My commission expires March 23, 1928.

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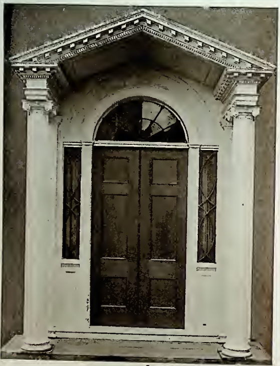


Courtesy of the Metropolitan Museum of Art

Doorway from the Bristol House, New Haven, Connecticut
1803-1804

NOW IN THE METROPOLITAN MUSEUM OF ART

Old-Time New England

THE BULLETIN OF

The Society for the Preservation of New England Antiquities

A QUARTERLY MAGAZINE
DEVOTED TO THE ANCIENT BUILDINGS, HOUSEHOLD FURNISHINGS, DOMESTIC ARTS, MANNERS AND CUSTOMS, AND MINOR ANTIQUITIES OF THE NEW ENGLAND PEOPLE

Volume XVIII JANUARY, 1928 *Number* 3

Some Early American Doorways

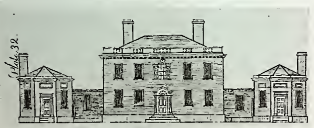
By Charles O. Cornelius

(Reprinted from the *Bulletin of the Metropolitan Museum of Art*)

THE characteristic appearance of the exteriors of American houses of the eighteenth or early nineteenth century results from a combination of a great many elements of design, detail, and material. Although the Renaissance disposition of parts as it was interpreted in England in the seventeenth and eighteenth centuries formed the basis of design, the differences in social usage and economic conditions and the variety of available material forced upon the American builders the necessity for individual interpretation of the conventional forms. As a result we find exteriors which have the double interest of similarity to and divergence from the English houses which are the immediate prototypes. There is, in addition, a considerable variation of treatment along the Atlantic seaboard. The general stylistic influence was pervasive but its interpretation in different localities very often took on an individual character. In the different centers of settlement and culture special preferences quickly showed themselves, particularly in the use of detail.

The general exterior design which formed the basis of most of this architecture—a symmetrical arrangement of openings with an emphasis on horizontality rather than verticality (Fig. 1), centered the principal interest in the entrance doorway. The ornament was usually concentrated here, supplemented by the decorative treatment of the main cornice and occasionally by that of the window-heads. The wooden doorways shown in the present exhibition give a fair, although by no means a complete, representation of the characteristic treatments of the conventional forms of the Colonial and Early Republican periods.

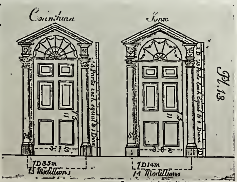
There will be noticed in many of the doorways from different parts of the country a similar arrangement of open pediment above a fan-light, the door itself flanked by pilasters or engaged columns (Fig. 2). The prevalence of this type of single doorway was due to the use of the architects' and builders' design books which were widely circulated throughout the Colonies. In prac-



Courtesy of the N. Y. Historical Society

Fig. 1.—Design for a Facade with the Typical Arrangement of Doors and Windows

FROM THE COUNTRY BUILDER'S ASSISTANT BY ASHER BENJAMIN, 1798



Courtesy of the N. Y. Historical Society

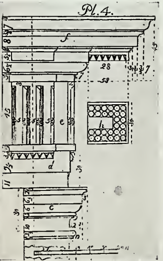
Fig. 2.—Designs Showing Conventional Treatments with Open Pediments and Fan-lights

FROM THE COUNTRY BUILDER'S ASSISTANT BY ASHER BENJAMIN, 1798

tically all of them we find examples of this type, although the detailed treatment is not often clearly indicated. It is the interpretation of the ornament which gives a special local flavor to each doorway and the comparison of these treatments in this exhibition is illuminating.

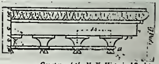
The doorway from the City Tavern, Alexandria, Virginia, from which was taken the woodwork of the ballroom in the American Wing, at the Metropolitan Museum of Art, is an extremely good example of the most correct and conventional design (Fig. 6). The door is flanked by three-quarter engaged

Roman Doric columns, topped by a section of entablature with triglyphs, the whole supporting an open pediment over a fan-light. The detail is finely executed, comprising carved rosettes in lozenge-shaped panels under the soffit, and decorated modillions. The scale and character of this doorway would suggest an earlier date than 1792-1793, which we know to be correct. It preserves the architectural formality and correctness of the third quarter of the eighteenth century and the boldness and consistency of scale of that period. Numerous books printed in England and America for the use of the architect-builders give detail drawings for such an entablature. The plate here reproduced (Fig. 3) from Asher Benjamin's "The Country Builder's Assistant," edition of 1798, could well have been the model for this entablature. This is similar to plates published earlier in William Pain's books, "The Builder's Pocket Treasure" and "The Practical House Carpenter."



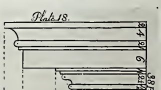
Courtesy of the N. Y. Historical Society

Fig. 3.—Entablature and Capital of a Column
FROM THE COUNTRY BUILDER'S ASSISTANT
BY A. BENJAMIN, 1798



Courtesy of the N. Y. Historical Society

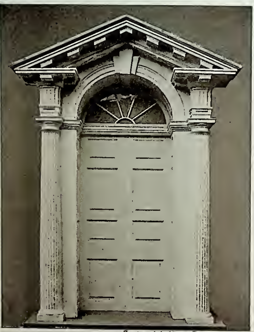
Fig. 4.—Detail for a Cornice with Small Curved Brackets
FROM THE COUNTRY BUILDER'S ASSISTANT
BY A. BENJAMIN, 1798



Courtesy of the N. Y. Historical Society

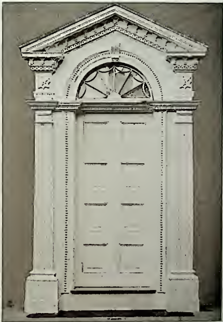
Fig. 5.—Cornice with Ornament of Moulded Pieces
FROM THE COUNTRY BUILDER'S ASSISTANT
BY A. BENJAMIN, 1798

Comparing the Alexandria doorway with the one from Bristol, Rhode Island (Fig. 7), we find the same general scheme, with fluted pilasters substituted for the engaged columns. But the treatment of detail in the latter has a greater originality and freedom. The Alexandria doorway is based upon stone design and is bold in scale; the Bristol doorway is distinctly an interpretation by a craftsman working in wood. Delicate little brackets above a meander give a sparkle to the cornice. Fluting and gouge work enrich the architrave moulding of the door frame, which is carried around the fan-light but broken by the transom-bar, a treatment characteristic of some of the best doorways of the Bristol, Newport, and Providence type. In general the ornamental detail is carried only around the lunette of the transom. In the rectangle of the frieze above each pilaster is an applied rosette, rather crudely carved in the fashion so frequently seen in the old seaport towns. Ornament in this position is more usual in American than in English doorways; in the design books published in this country, such as those of Asher Benjamin (Fig. 2), are plates suggesting ornament placed in this way. The series



Courtesy of the Metropolitan Museum of Art

Fig. 6.—Doorway from Alexandria, Virginia, 1792-1793



Courtesy of the Metropolitan Museum of Art

Fig. 7.—Doorway from Bristol, Rhode Island, about 1800

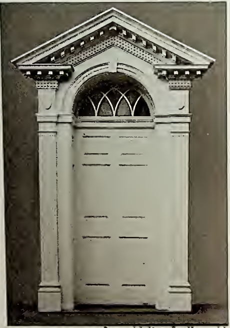
of small curved brackets in the cornice was a published detail (Fig. 4) and was much used along the seaboard.

Going farther south we find in the doorway from Ridgeville, Maryland (Fig. 8), this same wooden quality in the ornament. Here, under the cornice, is a curious detail which occurs in various conbinations up and down the Atlantic seaboard. Moulding run in the form of a deep channel is cut into short sections, which are set alternately vertically and horizontally to form a band. It is a most effective wooden treatment, creating sharp contrasts of darks and lights. This idea must have originated in the shop of some master-carpenter, for it appears not to have been much published. The 1798 volume of "The Country Builder's Assistant" shows some examples of cornices using this treatment (Fig. 5). Combined with this motif in the Ridgeville doorway are reeding, fluting, and gouge work.

In the doorway from the Runyon House in Trenton, New Jersey (Fig.

9), we have again, in slightly different arrangement, the ornamental band made up of small sections of moulding. The pilasters and the deep reveal of the soffit of the doorway are reeded, a characteristic treatment in the Middle States. The architectural variations which these two doorways typify were particularly prevalent in Delaware, Pennsylvania, New Jersey, and Maryland in the early nineteenth century. Farther north, about New York and in Connecticut, we have much the same spirit somewhat differently expressed.

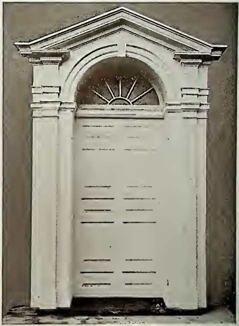
Many of the doorways dating from the early part of the nineteenth century show an ingenious use of mechanically-made ornament. Intrinsically it is not so fine as the decorative carving of the preceding period and it forms a transition between the freer late eighteenth-century use of classic ideas and their more archaeological employment in the so-called Classical Revival of the nineteenth century.



Courtesy of the Metropolitan Museum of Art

Fig. 8.—Doorway from Ridgeville, Maryland, early 19th Century

It would be interesting, if it were possible, to trace the origins of many of these small details of ornament, which for various reasons differ in form from their prototypes. Some of the plates in the builders' books, which give small line engravings of detail, are not sufficiently explained. If the builder were not particularly familiar with the type of detail shown, his interpretation of the plate, which presents the detail in straight elevation, might lead him into a wrong interpretation. Lines which were intended to indicate shadows might easily have been taken to indicate carving or moulding; other lines or spots might to him have suggested such simple woodworkers' methods as gouge work or bored work. The first is made up of shallow grooves, the second of small holes. The close connection between so much of the exterior and interior detail is explainable by the fact that few



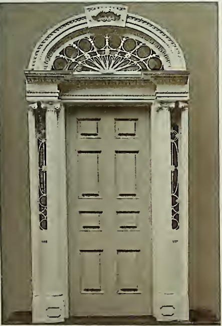
Courtesy of the Metropolitan Museum of Art

Fig. 9.—Doorway from the Runyon House, Trenton, New Jersey early 19th Century

of the published designs are expressly titled for exterior or interior work, and may be without graphic scales indicating their size.

The interruption of sea-traffic with England during the early years of the nineteenth century may partially account for the substitution of a good deal of this home-made ornament for the finer moulded composition ornament which would have been imported. Necessity here may truly have been the mother of invention.

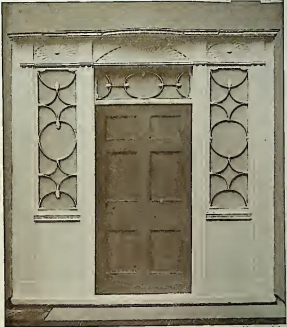
Another mechanical method, sometimes used to give quarter-round bed mouldings, was turning. Here a round wooden rod was turned in reeded or channeled form and the rod quartered. This is seen in the Trenton doorway. Still another form of ornament, much found in Delaware, New Jersey, and Pennsylvania, has delicate flutes interrupted at certain points so as to form a light design against the grayer recesses of the flutes. This, like so much of the mechanical detail, is found both on in-



Courtesy of the Metropolitan Museum of Art

Fig. 10.—New York Doorway, early 19th Century

terior and exterior woodwook. It occurs on the Trenton doorway and is found on mantelpieces and interior doorways in several houses.



Courtesy of the Metropolitan Museum of Art

Fig. 11.—Doorway from Vaucluse, Portsmouth, Rhode Island, about 1800

In the doorway and porch from the Bristol House, New Haven, Connecticut (frontispiece), we see a more straightforward architectural treatment. Here the detail and the proportions have been so refined as to take on a purely wooden quality, although most of the basic motifs are derived from stone detail. David Hoadley, the architect of this house, was a carpenter-architect of much more than ordinary knowledge, and familiar with traditional forms. This doorway is certainly one of the most satisfying of its type, rather original in its conception, gracefully free in its execution, and unusually consistent in scale.

The New York doorway (Fig. 10) is typical of many formerly seen in the neighborhood south of Washington Square. It was set into a brick wall and advantage was taken of the depth of the reveal to have columns only slightly engaged both on the inside and the outside, giving the effect of free-standing columns. The archaeological carefulness of the nineteenth-century classical revival is predicted in the use of the Ionic order as a basis, although there is much freedom in the placing of the Roman ornament and the whole doorway lacks much of the heaviness of the classical school.

From the famous old house "Vaucluse," at Portsmouth, Rhode Island, near Newport, comes a large doorway (Fig. 11) with sidelights and rectangular transom. To judge by the character of the detail, it would date from around 1800. Here we have a new sort of door frame in which a moulded trim is joined into square blocks at the corners, a treatment found in the late eighteenth century in England and in the early nineteenth century in the United States. The radiating ornament, reminiscent of Adam influence, is delicate and appropriate and is repeated in adapted form in the soffit of the cornices. There is a close similarity in scheme between this doorway and several around New York and in New Jersey. In some of these we find instead of the moulded trim small colonnettes reeded or fluted; in some, the carved fans or ellipses are combined with ornament made of small pieces of moulded wood such as we saw in the Trenton and Ridgeville doorways.

The examination of such a group of doorways as those shown in the exhibition at the Metropolitan Museum of Art, as well as a study of many related types which are published, renders very difficult any dogmatic statement or any generalization as to their style. On the other hand, each of them does possess a peculiar and indefinable quality which seems to identify it with a certain locality. To any one who has seen many of the houses in Newport and Providence, the Newport doorway identifies itself immediately as in this group. The doorways from Trenton and Maryland are unmistakably from the district not far from Philadelphia. The New Haven doorway is equally marked as from Connecticut.

Very few details were of exclusive use in a single locality. Travel on the part of house owners and house builders led to an exchange of ideas; distribution of books added to this. It is some peculiar quality arising from the combination of certain details, the preponderance of one type of ornament or another, which must in the last analysis give that elusive quality associated with a locality.

The Humphreys House

By Mabel P. Stivers

SITUATED on Elm Street, Ansonia, Connecticut, stands a fine old Colonial mansion known for the last hundred years or so as the birthplace and home of Gen. David Humphreys, member of a family all of whom were famous in the stirring times in which they lived.

First, for a brief description of the house. Built in 1698, by the town of Derby, as a parsonage, it originally was of the "saltbox" type, the leanto roof being raised in later years to two full stories and an ell built on to the rear. There is an addition also on the south side of the house, which local tradition says was the first Episcopal Church building in Derby, and was moved from its site across the street when the second church was built and consecrated about 1800. Dr. Frank Langdon Humphreys, to whom the writer is indebted for much of the information regarding General Humphreys, says he "always heard that the little addition was the first Episcopal Church."

The house has been much changed in the course of 228 years, but still retains as evidence of its age, the overhanging south end gable, the large stone chimney, and the inclosed front stairway, which originally went up to the attic. The two front rooms have beautifully carved mantelpieces, and there is paneling across the fireplace wall in the north upper front room, and the southwest room downstairs has a beautiful corner cupboard. The frame of the house is of oak and very heavy, the cased summer beams are still exposed and are twelve inches or more wide; the rooms are of high stud and the parlor is nearly seventeen feet square. The cellar extends only under one-half of the house as was the custom in the earliest houses. There are many thrilling local traditions regarding underground passages leading from this cellar in days of Indian alarms, and of buried treasure (the whole cellar having been dug over by various tenants in later days), also stories of the many slaves born there. On the old land records the house is described as a "Mansion House with 3 flowers (floors) and 2 flights of stayers (stairs)." It was no doubt built by Dr. John Hulls, who was the earliest builder of the town, and remodeled by Rev. Daniel Humphreys, for there are many evidences of its having been the home of wealthy and refined people. In 1902 there were still remains of the lead pediments which decorated the windows of the front, and traces of the gilt used on them. The house was said to have been beautifully furnished in the General's time with glass chandeliers and pendants, Turkey carpets and many things brought from abroad. The old brass knocker was stolen from the door in 1902.

The house was built for the Rev. John James, who was the first settled minister in Derby, first school teacher, and also served as town clerk in addition to his ministerial duties. After twelve years he was obliged to resign because of ill health and sold his house, which the town had given him, to Rev. Joseph Moss, a graduate of Harvard,

General David Humphreys

FROM AN ENGRAVING BY PARKER AFTER THE PORTRAIT BY STUART who was settled as his successor in 1707. After twenty-six years of service the latter was taken suddenly ill in 1732 and died twenty days after. His widow shortly after married again and went to live in Milford, Connecticut, selling the house to Rev. Daniel Humphreys in 1733.

The new minister was a man of wealth and culture and of a family famous for their mental abilities and physical beauty. He was a man of very broad and liberal views for his day, which brought him a great deal of criticism from his ecclesiastical brethren. In 1739 he married the daughter of Capt. John Riggs, in his day probably the most noted man of the town. She was a beautiful young widow, elegant in her manner, refined, cultured and widely known for her knowledge of local history. Because of her great beauty, dignity of carriage and personal charm, as well as an unusual degree of education for those days, she was known to the end of a long life as "Lady Humphreys," beloved and respected by all. In this house "Lady Humphreys" and her distinguished husband lived fifty-four years of happy wedded life and service to the people; they both died in 1787 within five weeks of each other. In this house were born to Daniel Humphreys and his wife, four sons and one daughter. This daughter, who married the Rev. Mr. Mills and was living in Danbury, Connecticut, when the British raided and burned the town, "took her best feather bed and throwing it across her horse's back, galloped for her home in Derby." John Humphreys, the second son, was prominent in town matters both in peace and war. His next younger brother, Elijah, a sea captain by profession, was a Major of great courage and prominence in the Revolutionary War, tradition says "having three horses shot from under him in one engagement."

David, the youngest son, was one of the most distinguished men of his time, one of the builders of our nation. As a soldier he served during the Revolution as aide to General Washington and was one of his family, where he was treated as a son, being called "the beloved of Washington." When any project during war times was proposed requiring courage, tact and diplomacy, he was the one chosen to convey instructions and to see that they were carried out. In consideration of his great services during the war he was appointed by General Washington to receive the battle flags at the surrender of Cornwallis, and to convey them to their final destination, the highest honor within his power to bestow. After the war he was sent abroad to represent our young nation at foreign courts, where his tact and diplomacy smoothed out many a tangle, and his charming personality, polished manner and conversation made him a welcome visitor at all courts. He was our first Minister to Spain and Portugal, but his most important work was in connection with Algerine pirates. To him is due the credit of freeing all commerce from their intolerable yoke and our American seamen from their vile dungeons. He was the earliest and most persistent advocate of a merchant marine and a United States fleet and naval militia to convoy and protect it.

While Minister to Spain he had observed the value of the Spanish breed of sheep and the superior cloth made from its wool. Upon the completion of his dip-

Gen. David Humphreys' House, Ansonia, Conn.
FROM A PHOTOGRAPH MADE ABOUT 1887

lomatic mission, he sent expert agents to gather for him a flock of the best "cabanas" of Spain, twenty-five rams and seventy-five ewes. By special permission of the Spanish government and with a small escort of Portugese soldiers, the flock were driven across Spain and Portugal to Lisbon and on April 10, 1802, shipped on board the "Perseverance" for New York, which was reached after a voyage of fifty days. They excited much interest as they were transferred in New York to a sloop bound for Derby and when landed upon the wharf there they created even greater excitement, farmers coming from far and near to see them.

General Humphreys then engaged in the making of fine woolen cloth at a time when it was most important this country should produce all it needed and be independent of the Mother country. He located his manufactories at Humphreysville, now Seymour, Connecticut, and did a large business. He has been called the "father of manufacturing" in this country. The Massachusetts Society for Promoting Agriculture, "for his patriotic exertions in introducing into New England 100 of the Spanish Merino breed of sheep," on October 29, 1802, presented him with a gold medal. In 1808, a society in Philadelphia offered premiums for woolen and cotton manufactures, and General Humphreys won it for broad-

General Humphreys' Woolen Mill
BUILT AT SEYMOUR, CONN., IN 1804

cloth. From this piece were made coats for President Jefferson, Secretary Madison and Capt. Isaac Hull. The President wore it at his New Year's reception and afterwards wrote a friend that "he wore a coat at his inauguration made from the fleeces of Humphreys white flock." It was much admired and set the fashion for homespun. From this importation has grown the great woolen industry of this country. He brought numbers of poor orphan boys from New York to work in his factories under ideal conditions, having them educated and given military training, being the first to combine education with military training.

While stationed abroad he married a wealthy English woman and they made their home most of the time in Boston where he built a beautiful house on Olive, now Mt. Vernon Street, adjoining Mr. Higginson's. These two houses, with that of Harrison Gray Otis, were the most imposing houses on the street. After serving through the War of 1812, when he was made a General for services rendered, he died suddenly of apoplexy at his hotel in New Haven. His epitaph, written by Colonel Trumbull, calls him "Patron of Arts," "Guardian of the State," and "Friend of the Poor." The house remained in the family until 1883, when it was bought by the father of the last occupant, who lately sold it to an Association which plans to restore it as far as possible to its original state and then preserve it, as a house like this is a rare heritage to a community.

Ancient Carpenters' Tools, Part VII

By Henry C. Mercer, D.Sc.

Tools for Shaping and Fitting (Continued)

SO MUCH for the homemade tools, which one hundred years ago made the "mortise," namely, the square hole, large or small, deep or shallow, so carefully dwelt upon in old books, which, devoted rather to the theory than to the tools of carpentering, incessantly refer to it as required to receive the tenon necessary in fitting one piece of wood into another. But hardly less important in the woodworker's craft, than this celebrated square hole, is the round hole, made in wood by carpenters for more than two thousand years, which hole, however produced, becomes of immense importance in any worldwide or historic consideration of the subject. The Chinese excavate round holes with the bow or thong drill, or pump drill, as described later, or sometimes by wriggling a long rectangular iron point into wood. The old Anglo-American wheelwright sometimes burnt square holes with a red hot iron, presently shown, but the carpenters of Western Europe and America made round holes, one hundred years ago, by means of another ancient class of master tool, which worked, either (*a*) by squeezing through and pushing aside the fibres without removing them; (*b*) by boring, *i.e.*, by paring the wood away into shavings; or (*c*) by drilling, *i.e.*, scraping it into dust on the bottom and sides of the hole as the tool goes down; and the simplest of these, as alone representing the first method, is here illustrated by

The Brad Awl (Fig. 160)

a thin rod, never much over one-eighth of an inch in diameter, with chisel-shaped point, mounted on a wooden handle and twisted with the right hand, back and forth, so as to perforate the wood. Carpenters often employed it, one hundred years ago, to prepuncture oak or hard wood into which the old malleable wrought nail would not drive without bending, and it is still used by cabinetmakers, joiners and carpenters, to produce preliminary holes for nails or "brads" (headless or half-headed nails) in easily split wood, or for starting holes for hinge screws. Unlike the round-pointed shoemaker's awl, or the tailor's needle, which pierce by direct thrust, or the "auger," or "gimlet," which pare away the sides or bottom of the hole with a continuous circular motion, or the variously fluted broach or three- or four-sided tapering hand drill, described later, which pulverize the wood, this little instrument, as here constructed, not workable if larger than about one-eighth of an inch in diameter, and not by continuous revolutions, wriggles back and forth through the wood, by squeezing aside the grain, without producing any shavings or dust.

Moxon, who does not illustrate it, describes what may be it in his "Catalogue of Carpenter Tool Names," as,—"A Pricker, vulgarly called 'awl,' yet for joiner's use it has most commonly

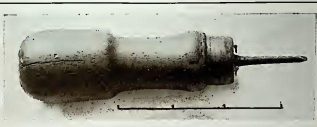


Fig. 160.—The Brad Awl

This highly effective little one-hand tool, which Knight (1878) describes as "an awl with chisel-shaped point for making insertions for nails," is a short steel shank, set in a straight wooden handle, unworkable in this form if not smaller than a gimlet, or if much larger than a bodkin. How old it is, or how or when it was first used, the writer has failed to learn. Its greatest feature is its blade, which is not tapered to a round point, but is flat and chisel-shaped, and which, when the short tool is wriggled in the right hand, crushes aside and squeezes through the wood-grain very quickly, penetrating all but the hardest woods without making sawdust.

Holtzapffel in *Turning and Mechanical Manipulations*, London, 1846, Vol. 2, page 539, describes two varieties of this tool as employed by English carpenters at that time, namely:—(1) The awl used by wire workers, a square, tapering rod sharpened to a point on all four sides; (2) An awl "sharpened with three facets as a tapering triangular prism," in other words, a tool exactly resembling the Japanese awl shown in Figure 173.

But though both these latter varieties of awl appear in the recent household tool equipments, now (1927) on sale by hardware dealers, the writer has failed to find or hear of old homemade examples of them, called brad awls, or as used by American carpenters in the 18th or early 19th century, while abundant evidence shows that the chisel-pointed tool was continually employed by the old American cabinetmakers to make preliminary punctures for nail driving in delicate finished work or splitable wood, and universally by the carpenter, before 1846, to prepare screw holes for pointless butt-hinge screws.

Diderot does not show the chisel-pointed tool among French carpenter's instruments in 1768, but the word "awl," associated with names for carpenter's tools in the New England inventories, in the Essex County, Mass., Probate Records, for 1647, 1659, 1671, and 1678, may refer to it. The *New English Dictionary* first quotes its later and present name as "Brad Awl" and "Sprig Bit," for 1823 and 1881.

a square blade, which enters the wood better than a round blade will, because the square angle in turning about, breaks the grain, and so the wood is in less danger of splitting." But his unfortunate use of the words "square blade," which might refer to a blade square in cross-section (the four-sided hand drill, above mentioned), or a blade chisel shaped in cross-section, seems too doubtful to positively identify the tool as above described or to date it for the seventeenth century.

As here considered, it should not be confused with any other sharp pointed three- or four-sided awl, whether used by carpenters or not, for it is its very distinctive and effective chisel point that gives it its mastery and tempts us to guess at its origin or possible use by the Romans and after a few convincing experiments, to again weigh Moxon's evidence before discarding it.

Far better known, more conspicuous, and indispensible for larger holes, is the primitive boring instrument, of unsettled antiquity in Egypt, but known to the Romans, and according to Rich, referred to as the "Terebra gallica," by Pliny, *Historia Naturalis*, 17-25, and by Columella, *De Re Rustica*, 4-29-16, and typified by the auger, here shown in several of its old hand-forged eighteenth-century forms, as an iron shank variously bladed to cut circular holes by hand-twisting in one direction (left to right), its wooden cross-handle.

As archaeologists are continually

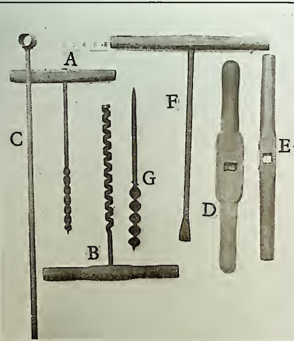


Fig. 161.—Augers and Auger Handles

As here shown the homemade handles for twisting auger blades in the 18th and early 19th centuries were variously constructed.

(A, B) Most common. The wooden handle has been made with a draw knife. Through a rectangular tapering hole in its middle, the iron top of the auger shank, tapered to match, has been driven, and top-clenched across the grain

(C) Rare. A much stronger device, used with very long auger shanks for long borings. The iron shank is topped with a flattened ring through which the wooden cross-handle (here missing) has been driven. The blade, not seen, is that of a spiral auger of the mid-19th century, from Bucks County. Two of the ship's augers of the Dutch Nova Zembla Expedition of 1596 are thus top-ringed (Fig. 180).

(D) Rare. Used by wheelwrights in the 18th and 19th centuries. The middle of the loose wooden handle is perforated with a tapering rectangular (not equi-sided) hole, with its long diameter across the grain. As into this the shank-top, tapered to match, is loosely thrust, the handle is easily releasable. One such handle would serve for several variously-sized auger bits for boring, or reaming, wheel-hub-holes. If the handle hole and shank top are equi-sided, as in the similar specimen (E), the wheelwright, standing on the wheel and boring downward, can ease and steady the operation, by releasing and replacing the handle at right angles, at each half-twist, without changing hands. (Information (1927) from Ahram Stone, wheelwright, *c.* 1880, Doylestown, born 1854).

(F) Rare. An adjustable twist-handle, sometimes used as a bit-extension, in long borings by carpenters, with variously sized loose auger bits. An iron shank with fixed cross-handle, as in (A), and with tapering equi-sided, "four-square," rectangular socket at bottom, into which the top of the auger-bit, tapered to match, is loosely set without catch-pin, and therefore at any time easily releasable.

(G) A loose spiral auger-bit used in this manner, but which does not fit this particular shank (F). Both specimens are from Bucks County, Pa. Ring-topped, adjustable twist-handles of this pattern, sometimes twelve feet long,

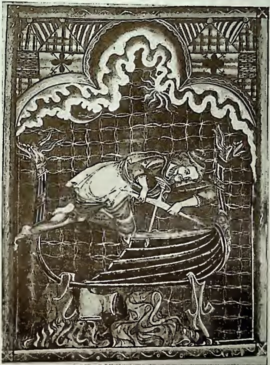


Fig. 162—The Breast Auger

This photo-engraving from an English illuminated manuscript of date earlier than the 15th century, shows Noah boring one of the planks of the Ark with a pod-auger. He twists the handled instrument in the usual way, while to increase its downward pressure he leans upon a revolving circular breast plate, set or attached upon the top of its shank above the handles. The picture appears as one of the many interesting illustrations in *Schaffende Arbeit und Bildene Kunst*, Kroner, Leipsig, 1927, and is here reproduced by kind permission of its author, Professor Dr. Paul Brandt, of Gottingen University, Ernest Puter, wheelwright, of Bedminster, Bucks Co., Pa., described to the writer, in September, 1927, a similar auger, with loose bottom-dented breast-pad, and top-shank filed to a pivot-point, used by him in boring hub-holes in hard wood, when learning his trade near Breslau, Germany, about 1905.

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are always used by wooden pump makers to bore and ream freshly cut logs for "pump-trees," with the various heavy unmounted pump bits, as shown in Fig. 169 (E, F). All the specimens shown are from Eastern Pennsylvania except D. E was bought from Samuel Krout, a retired wheelwright, at Bedminster, Bucks Co., Pa., in September, 1927, D with a lot of obsolete tools from Franklin Bigelow at Fall River, Mass., in 1897. (D, E, F, G) may explain the lost mountings of many of the larger top-tapered boring bits excavated at Roman sites in Europe, as those now on exhibition at the Saalburg Museum, Homburg, Germany, at the Swiss National Museum at Zurich and at the Monicipal Museum at Saumur, France. (*cf*. Fig. 165.)

finding ancient boring bits without their handles, it seems all the more necessary at this point to explain the next illustration

AUGER HANDLES (Fig 161)

which shows that in the eighteenth and probably for many preceding centuries, auger handles were either fixed or releasable.

(A) by flattening or squaring the iron shank top and clenching or riveting it over a centre hole in the handle.

(B) by cross-driving the handle through a ring in the shank top.

(C) by flattening or "four-squaring" the shank top to loosely fit into a rectangular hole in the wooden handle, for easy release in certain borings.

(D) by flattening or by "four-squaring" the shank top and setting it releasably with or without a pin in a coinciding iron socket in an extra iron twist shank with a cross-handle as in (A).

The fact that the auger has been sometimes equipped with a breast pad, to increase its downward pressure, is too interesting to be overlooked, and though the writer has failed to find an eighteenth-century tool so constructed, the next picture

THE BREAST AUGER (Fig. 162)

from a pre-fifteenth century painted manuscript at St. John's College, Cambridge, gives conclusive evidence on the subject.

In the photo-engraving, one of the very interesting and novel series of pictures, illustrating ancient industries, in *Schaffende Arbeit und Bildene Kunst*, by Prof. Dr. Paul Brandt, Kroner, Leipsig, 1927, kindly found for the writer by Mr. J. E. Sanford, the old painter shows us Noah boring one of the Ark planks, with a cross-handled auger equipped, upon its shaft top above the handle, with a breast pad, under which the instrument revolves. Doctor Brandt shows another similar manuscript picture of similar date, location unnamed, reinforced with the same attachment, which, however, only helping the down pressure of the instrument, in no way changes its construction or increases its velocity.

If the auger had not been so long and so universally necessary to bore axle holes for the wooden wheels of wagons, to start mortise holes, and to peg together furniture; if, as before noted, the planks used in Europe to sheathe wooden ships had not been so generally fastened thereto with unrustable wooden pegs, rather than nails; or if pegs could be driven into place without preliminary openings, then the worldwide necessity of the auger, as an agent in the history of human industry would not compel us to wonder at its origin and distribution, while in comparison with its vast efficiency in the hands of the wheelwright or shipbuilder, its use in other trades, and as here considered, by the carpenter, or joiner, to peg-hole tenons or rafters, or parts of furniture, seems a matter of minor importance.

The difficulty of boring wood with one of these old tools, greatly increased by working in hard wood, or by adding to the depth and size of the hole, was met by iron shanks, expanding into blades, which may be roughly divided into two classes; namely, those which cut downwards, and those which cut sideways; the simplest of which, cutting chiefly downwards, is typified by

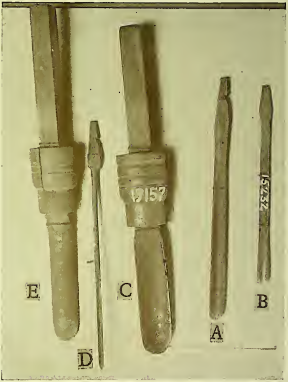

Fig. 163.—The Gouge Bit (A, B) and Spoon Bit (C, D, E)

An elongated steel trough (A) with parallel sides and sharp rounded point projecting straight downward on the level of its back without forward bend, or spoon, thus resembling a common form of the carpenter's gouge (Fig. 152). The bottom of the blade is sharpened on its back or convex side like the carpenter's gouge, but unlike the latter, is also sharpened on the inner concave of *both sides* of its trough. Therefore it cuts both ways; but, as in boring, its bottom blade fails to reach the centre of the hole, the tool leaves a small unexcavated core.

Variety (B) is constructed and sharpened in the same way, except that the sharp bottom blade has no down-curve, and is cross-cut at right angles to the cylinder and therefore is a flat semi-circle. Failing still more than form (A) to reach and excavate the centre of the hole, it only leaves a deep circular incision, releasing a full-sized central plug. Both tools will cut both ways, but as both fail to catch and pull out shavings when the tool clogs, neither would be adapted to deep borings. We have failed to find either of these tools in full auger-size mounted with cross-handles, among American carpenter relics, and here show them in smaller form among the bits used with the "Carpenter's Brace," described later.

In construction the ancient, the "Spoon Bit" (C, D, E) exactly resembles the gouge bit, except that its rounded, down-cutting bottom blade is spooned, *i. e.* saucered upward to the level of the trough sides; a fact clearly explained

THE GOUGE BIT (Fig. 163, A, B)

the blade of which, the so-called "reed," is described and illustrated by Holtzapffel in 1846. It consists of what might be compared to a hollow reed or pipe, sawed in half, lengthwise, and, unlike the carpenter's gouge, which it superficially resembles, is sharpened, not only at the bottom, but also generally on its long parallel sides.

Since many books hurriedly mix up this tool with the bit next described, we should pause here a moment to carefully note that the bottom or down-cutting end of the cylinder, in no way saucered or spooned, in variety (B) is flat, *i.e.*, cross-cut at right angles to the cylinder, while in variety (A) it is more or less rounded downwards, and that in both cases, owing to this lack of spoon or inbend, which may be clearly explained by saying that water if poured into the cylinder would run off, the cutting bottom of the cylinder never reaches the centre of the hole and we find after a few boring experiments that the flat-bottomed variety (B) simply cuts a deep, circular incision, thereby releasing a full-sized central plug, while the round-bottomed variety (A), managing to make more disturbance at the bottom, still produces a central, if smaller core.

There being no bottom spoon or saucer to either tool, neither will hold and pull out the shavings, if the blade should clog therewith, hence, though both would serve without such shaving discharge for the quick perforation of thin boards, neither would do so well in deeper borings as the next tool shown, namely,

THE SPOON BIT (Fig. 163, C, E, D)

in which the instrument is constructed in the same way, except that the down-rounded-cutting bottom of the cylinder is spooned, and therefore would pull out some, at least, of the shavings. Besides which in revolving it reaches the centre of the hole and hence pares the entire orifice, leaving no core.

Both the gouge and the spoon bit cut chiefly downwards and cease to cut sidewise as soon as the full diameter of the cylinder is reached. Moreover, they will cut both ways, *i.e.*, forwards and backwards, and in all similar specimens seen by the writer the bottom of the blade is sharpened on its convex back, while both sides of the cylinder are sharpened on their inner concave for more than half their length, as if to smooth the hole.

In the eighteenth century (1768), Diderot shows the spoon, with auger handle, as used in France by the carpenter, ebeniste, wheelwright, and other woodworkers, and called "Tarriere" (*cf.* "Charpente," Plate XLIX, Fig. 25). But though the writer has found numerous examples, large and small, of these boring gouges and spoons, which will cut both ways, as smaller equipments of the carpenter's brace, described later, no old American full-

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by saying that water poured in to fill the upturned trough will not, as in the gouge bit, run out. Again the down-cutting tool will work both ways, but as in this case the spooned blade reaches the centre of revolution, it will not only pare out the entire orifice into a round-bottomed hole leaving no core, but also partially pull out its clogged shavings in deep borings. Having failed to find an old example of the instrument mounted on a cross-handle, like an auger, it is here shown in smaller size as one of the brace bits of the 18th century carpenter. The specimens C and E with their old brace, not shown, were obtained in 1923 from the estate of Charles Bryan, an old chairmaker at Dublin, Bucks Co., Pa.

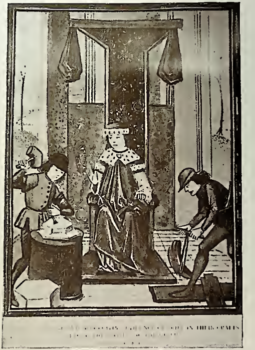


Fig. 164.—A Cylinder Auger of the 14th Century

This picture showing a carpenter using an auger with a gouge or spoon blade from one of the paintings in a French illuminated manuscript of 1362, *Libre des Proprietez Des Choses*, by Jehan Carbechon, in the British Museum (Bib. Reg. 15-E-11-Folio 99), reproduces an illustration in the *Guilds of Florence*, by Edgcumbe Staley, Methuen, London, 1906. It was found for the writer by Mr. Joseph E. Sandford, and is here republished by kind permission of Mr. Edgcumbe Staley.

sized augers, so bladed, have thus far appeared.

Nevertheless, interesting evidence proves that a large variety of this elongated untwisted trough, mounted on a cross-handle, represents, if not the oldest, a very old form of the full-sized auger; and the more we compare the efficient spoon with the less efficient gouge, the more interesting it might seem to trace back, if possible, the comparative antiquity of both

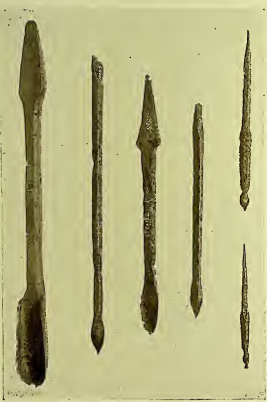


Fig. 165.—Boring Bits of the Roman Carpenter

The steel bits here shown were found in Roman camp sites in Switzerland and are now preserved in the Swiss National Museum at Zurich. In 1 (left) found at Wettsweil (Zurich), and 3d (from left), found at Windisch, the blades must be either gouge-shaped (Fig. 163, A, B), or spoon-shaped (Fig. 163, C, D, E). The first is about 24 inches long. Another, 15 inches long, is in the Town Museum, at Saumur, France, and several similar spoon or gouge-bladed boring tools found at the Saalburg Roman fort, near Homburg, Hesse, Germany, 13, 16 and 21 inches long, seem too large for rapid turning. Others, smaller, at Saalburg and elsewhere, are constructed in the same way, but show no signs of top clenching. A striking feature of these larger Roman tools is the resemblance of their lanceolate or pyramidal tops to the tops of the large auger and reamer bits of the modern pumpmaker and carpenter (Figs. 169 and 170). This would suggest that they may have been worked with a releasable wooden cross-handle like the specimens D, E, in Fig. 161. But as yet no Roman bitstock and no handle of any kind has been found for any of these tools. The bits are photographed by the kind permission of the Swiss National Museum at Zurich.

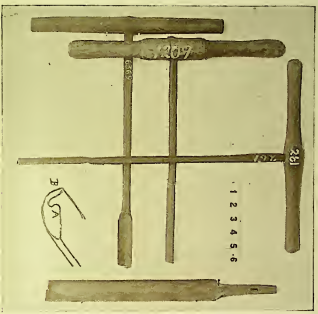


Fig. 166.—Down Cutting or Nose Auger

Here the iron shank in full auger size, with cross-handle, appears as a perfect half-cylinder, ending, without taper, in a horizontal nose-shaped inbend of its side, forming a knife; the "nose," seen faintly in the right specimen and clearly in the outline marked A, cuts dowward at very nearly the full diameter of the instrument. This auger, therefore, from the start, makes a cylindrical hole, without taper, but as it lacks a screw point, and the "nose" does not center itself, a preliminary hole must be bored or dented in the wood to start it. Neither this tool, nor the pod auger, nor the taper auger (described later) will "bite" sufficiently to penetrate wood without body or hand pressure, hence neither will work on a crank, and as neither automatically discharge their shavings, they must be continually pulled out of the hole, when the shavings enclosed in the cylinder, clog the work. Diderot in 1768 *(Charpente)* does not show this tool.

tools. Unfortunately the two bits resemble each other too much to be distinguishable in old pictures and nothing short of actual examination of ancient excavated tools, with unrusted points, could certainly establish dates for either blade form.

A French illuminated manuscript of 1362, in the British Museum, also found for the writer by Mr. Joseph E. Sanford, as seen in the next illustration,

A CYLINDER AUGER OF THE 14TH CENTURY (Fig. 164)

clearly shows an auger equipped with one of these down-paring, untwisted cylinder blades, which may be either spooned or unspooned. Another appears hanging on the wall, in the "Carpenter," one of a series of eighteen etchings, showing workmen at their trades, by Rembrandt's pupil Jan Joris Van Vliet, born at Delft in 1610 (*cf.* reprint by Carl Gerlinghaus, Munich, 1925). While to prove its far greater antiquity, the next illustration

BORING BITS OF THE ROMAN CARPENTER (Fig. 165)

shows two Roman instruments of this construction (1) and (3), counting from left, found at ancient sites (1) in Wettsweil (Zurich) and (3) Windisch, in Switzerland.

The blades of these rusty relics of a bygone age, several more of which were dug up at the Saalburg Roman fort near Homburg, Hesse, Germany, and are now (1927) on exhibition at the Museum there, appear to be considerably spooned. All lack their original handles. Some, like the left-hand specimen, here shown, with shank about two feet long, too heavy for rapid revolution, must have been mounted on a T-handle like the modern auger. Others are small, and we may guess from their socket-shaped tops, that some device, not yet found, resembling either a carpenter's brace or an auger or gimlet cross-handle was used to turn them.

As before observed, in shallow board or plank borings, quickly penetrating the wood, and hence where no outpull of clogged shavings was needed, the gouge or spoon bit would do well enough. Otherwise, in the eighteenth century, the difficulty of shaving release in deep borings, was sometimes met by a curious variety of the spoon bit called the Duck's Bill or Duck's Nose-Bit alias "Brush Bit" and "Cooper's Dowel Bit," in which the spoon ends in a side-sharpened upcurled point, which, though not helping the down-cut would, because of its cross-reach beyond the centre of the hole, catch and pull out shavings that the plain spoon, only half grasping the orifice, would miss. The author has failed to find an old specimen of one of these rare and interesting tools, which Knight merely names, and the careful Holtzapffel too briefly describes without illustrating, as used by brush makers, and by coopers for boring the dowel holes in barrel heads. But Diderot illustrates it as used by the wooden-shoe maker, "sabbottier" (*cf. Œconomie Rustique,* Vignette Fig. 8). Also, as one of the only three French carpenter's augers which he shows for 1768. He calls it in the former case "Grande Cuilliere," and in the latter "Laceret," and though poorly drawn, its profile reasonably distinguishes it from the other two carpenter's blades, namely the pod-auger and the spoon-auger, shown on the same plate ("Charpente," Plate XLIX, Fig. 24).

Feldhaus, *Technik der Vorzeit,* article *Bohrer,* shows, without describing, a woodcut of the tool of date 1615, and Daremberg and Saglio (article *Terebra*) illustrate a remarkable Roman specimen, which they call "Terebra Gallica," dug out of a wall at the ancient Uxellodunum, near Cahors, France.

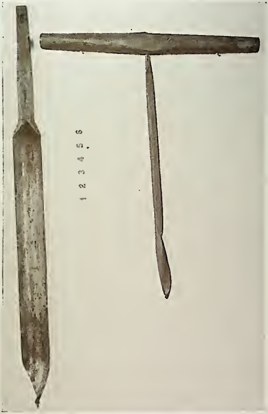


Fig. 167.—Twisted Cylinder or Pump Auger and the Pod Auger

This ancient and now almost obsolete instrument is here illustrated in two varieties, that at the left being the loose bit of a pumpmaker's auger mounted, when worked, on a long shank, not shown. The tool is an elongated open cylinder with sides, one of which is sharpened as a blade, somewhat twisted as they taper downward to end in a screw point, and cuts not directly, but diagonally downward, enlarging the hole, until the full diameter of the tool is reached. It engages the wood much more firmly than the untwisted gouge auger, though much less so than the spiral auger, described later. Nevertheless, it does not grasp it sufficiently to enable it to penetrate without occasional man pressure, and hence, will not, like the spiral auger, work freely on a crank. Because the long parallel sides of the cylinder steady the tool and prevent its boring off the line, the instrument was preferred in elongated accurate borings

While the spoon-bit is clearly an improvement upon the gouge, and the duck's bill sometimes upon the spoon, another device of unknown antiquity, appended to this same untwisted boring trough, clearly appears in the eighteenth century, namely the

Down Cutting or Nose Auger (Fig. 166)

In this now almost obsolete homemade Colonial instrument, the bottom spoon of the spoon-bit has been deeply notched, and one of the spoon projections thus produced has been bent upward to clear the wood, while the other, sharpened all around and round pointed, forms in profile the so-called "nose," which more effectively pares up the entire bottom of the hole as the tool goes round. Meanwhile, the other non-cutting spoon up-bend, still holds the clogged shavings, when the tool is pulled out to discharge them.

While the nose-bit is turned, it is not its sides, but only this revolving nose, which cuts, and only downwards at that, but no longer both ways, therefore only one of the side blades, which may be said to serve only to clean out or to smooth the hole, and steady the instrument, need be kept sharp. Further, as the sides are parallel, the hole, save for its round bottom, is cylindrical, whether the entire instrument penetrates the wood or not. But because this "nose" fails to "bite," at first, the tool, according to Holtzapffel, must be started with a preliminary dent or notch.

The next illustration shows in varied form another boring tool whose origin is lost in antiquity, namely the

Twisted Cylinder or Pump Auger and the Pod Auger (Fig. 167)

This ancient instrument appears in two varieties, as here shown — (left) as used by pumpmakers — a long cylindrical trough, tapering at the bottom, with sides (one of which is sharpened) slightly twisted into a spiral ending in a pivot screw, which latter merely "bites" or grasps the wood without cutting it, until, as the tool goes down, one of the spiral blades diagonally side-cuts the hole to the full diameter of the instrument, after which it ceases to cut. Hence the elongation of the cylinder beyond this point of widest diameter, which considerably increases the friction, only serves to steady the instrument, where long, straight holes, as in wooden pump stocks or pump-trees, are required.

The variety (right) also illustrated (as by the old pumpmakers for wooden pump trees) to the other variety here shown to the right. This is known as the pod auger and is constructed in the same way, except that the cylinder is shortened into a boat-shaped open trough causing less friction, called the pod, from its resemblance to a seed pod. In both instances, the cylinder, however shaped holds the shavings when the clogged instrument is continually pulled out of the hole to remove them; while both tools, because their diagonally twisted blades will hold fast in penetrating the end of a log, have maintained, in long borings parallel *with the grain*, a superiority over the otherwise more effective spiral auger described later, whose cross-cut parings in that case break off. Both specimens here shown are homemade Bucks County farm relics. The lefthand example, smith-stamped "Dubs," was used until about 1890, near Doylestown, to bore out the valve holes in wooden homemade pump-stocks, the so-called pump-trees. According to the information of Edward Haycock, homemade pump-maker of Fountainville, Bucks Co., Pa., given to the writer in March, 1926, who still bores wooden pump-trees, the freshly cut white oak log to be bored, was squared with the broad axe and laid horizontally on blocks, whereupon, when the auger point was centred upon a preliminary hole in the log end and its long shank was firmly steadied on a bracket, the instrument was slowly worked, generally by two men, sometimes by one, who twisted its cross-handle without much forward pressure. Thus, working from both ends, they laboriously perforated a sixteen-foot log endwise in one day, after which the hole had to be enlarged three or four times by various sizes of the taper, side-cutting reamer, shown in Fig. 169—F, E.

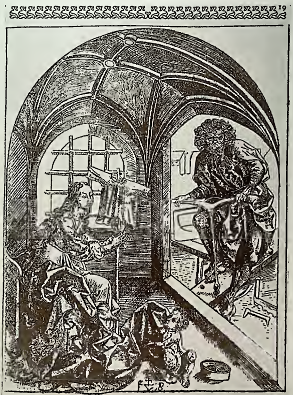


Abb. 16. Zimmermann bei der Arbeit (Heilige Familie). Kpfr. von Veit Stoß. 15. Jahrhundert. Dresden, Kupferstichkabinet. P. II, S. 153, Nr. 4.

Fig. 168.—A Pod Auger of the 15th Century

From a 15th century German copper engraving of the "Holy Family," by Veit Stoss, now preserved in the Kupferstiche Kabinet at Dresden. (*Monographen Zur deutschen Kultdrgeschichte*, Vol. 8, *Der Handwerker*, E. Mummenhoff, Leipsig, 1901.) Saint Joseph is represented boring a plank with a pod auger, the sides ol which are twisted more than in the photo-engravings of other examples here shown. A log "dog," and a cross-cut saw, with the wide-spread twin teeth (in modern outline) appear on the floor.

here, is constructed in exactly the same way, but differs in the shape and length of its cylinder. It is called "pod auger" in the United States, from the resemblance of said tapered cylinder to a seed pod, whose rounded shorter sides decrease the friction but no longer steady the tool. Again, one of these sides is sharpened and twisted towards the bottom, so as not only to cut but to grasp the wood, as the instrument penetrates, and again, as in the left specimen, this bottom-twist of the cylinder, is helpful in holding the shavings, as the clogged blade is continually pulled out of the hole to discharge them.

A final glance at the two tools laid side by side, and helped by the rapidly vanishing information of men who still use them, clearly shows that both tools cut only one way, *i.e.*, forward in the direction of the spiral twist; that the elongated cylinder must cut more accurately, but with more friction than the short pod; that the little start screw, though it does not cut at first, in both cases holds the instrument to a centre; while the swelling blade-twist of the cylinder, strongly grasping the wood, as it enters the hole, not only greatly reduces the man pressure otherwise necessary, but explains why both tools, now so rarely seen (because entirely superseded in cross-grain boring, by the spiral auger described later), still hold their own for deep borings made endwise into wood.

This is why Edward Haycock, who (1926) with the pump auger (left), bores sixteen-foot white oak logs endwise for wooden "pump-trees," at Fountainville, Bucks County, Pa., does not and cannot use the otherwise more efficient spiral auger for this purpose, because, as he says, its parings break off across the grain, and so do not hold the tool to its work.

How easy to glance at outline drawings of these master tools in books, or to think we understand them, from the superficial descriptions of writers, who begin and end their explanations with names, or take for granted a knowledge that no one has or can have, without attentive study. If the archaeologist does not understand them, he cannot explain the similar tools dug up at Roman sites in Europe, and if we cannot describe them without wearying the reader, the photographs at least remain. They show, if often too dimly, the trenchant forms, never constructed for show, and whose every variety has a studied purpose.

That the pod auger is also an old European instrument, is shown not only by Moxon's miniature picture of it (Fig. 67K), but also by the next illustration, namely:—

A POD AUGER OF THE 15TH CENTURY (Fig. 168)

from a copper engraving, representing the Holy Family, by the German engraver, Veit Stoss (born *c.* 1447, died 1533), in which the tool, with the blades more twisted than in the specimen above shown, is turned by Saint Joseph, to bore a hole in a plank.

The blade of the pod auger is very clearly drawn in the old English manuscript painting, shown in Fig. 162, and several other examples of these extra-twisted instruments, as clearly distinct from the ancient gouge, spoon or nose auger, whether for two hands or one, appear in another ancient woodcut from a monastic picture book of the

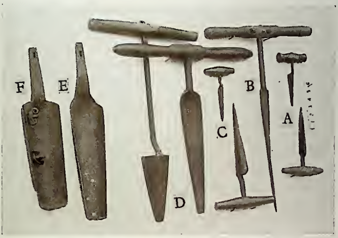


Fig. 169 (A, B, C)—The Taper or Tap Auger

In these four old homemade big and little side-cutting instruments (A, B, C) called "Tap Augers," the cross-handled shank ends, not in an open-sided half-cylinder, but a half *funnel*, which cuts a tapering hole, unless the blade goes clear through the wood. The blades are not dull-bottomed or open-bottomed, but dwindle into side-sharpened points, more or less twisted, ending in straight screws, like the pod auger. Hence, by diagonal side-parings, they produce a tapered hole, where needed by cabinetmakers or particularly by coopers and others, who still use factory-made duplicates of them (A, A, C) with one and (B) two hands, to tap casks for bung and spigot holes. As in the wheelwright's auger, both sides of the funnel are sharpened to cut. The shanks are riveted or clenched last to the handles through rectangular holes.

Fig. 169 (D, E, F)—The Reamer

This down-tapering, funnel-shaped instrument, sharpened sometimes only on one side and sometimes on both sides, will not bore a hole but only enlarge by side-paring a hole already bored. The two specimens (F, E) are pump reamers, or rather bits therefor, which, when mounted and pegged last into rectangular bottom-sockets, on very long iron twist shanks (not shown) (*cf.* Fig. 161), enlarge holes previously bored by one of the augers already described. Only one of the blades in each specimen (the right), hollow upward, as here seen, is sharpened towards its bottom. Because the pump-tree lies horizontally and the shavings will not, therefore, drop through the hole already bored, the unsharpened, inbent base of the funnel is desirable as a box to catch them.

In the first specimen (F) a dull-edged iron plate is screw-bolted on the outer, dull, left edge of the funnel, not to cut, but to enlarge the cutting diameter of the said funnel, when the right sharpened edge does the work. (E) lacks this enlarging plate. In the next two wheelwright's reamers, with fixed handles (D), also side-cutting, used likewise to enlarge holes previously bored in wagon hubs, both blades are sharpened; but as they are held vertically by the workman, and the shavings drop down through the already open hole, they lack bottoms.

fifteenth or sixteenth century, in the Town Library at Nuremburg, as reproduced in *Handwerker der Deutschen Vergangenheit*, edited by C. Mummenhoff, Leipsig, 1901, following page 40, which shows a pod auger being forged on an anvil, with seven finished pod augers and pod gimlets lying before a monkish blacksmith on a table.

Still more interesting, as amongst the rarest relics of ancient industry yet found by archaeologists, and as proving that the Romans had invented and used the pod auger, whether as a full sized auger, or as a bit in a carpenter's brace, described later, are the examples also shown in Fig. 165 (3 specimens right and 2d from left), in which the rusted instrument (2d from left), with shank broken and handle lost, but still nearly 18 inches long, and clearly preserving its twisted pod shaped blade, appears among the tools excavated at one of the Roman camp sites in Switzerland, and here illustrated by the kind permission of the Swiss National Museum at Zurich.

But as these specimens show, the blade of the pod auger is not cylindrical, but tapers downward, and therefore does not produce a hole entirely cylindrical unless it goes clear through the wood. For this reason another ancient Anglo-American form of instrument, specially constructed to cut a taper hole in the first place, though it would still enlarge by complete penetration a hole already cut, is represented in the next illustration as

The Taper Auger (Fig. 169, A, B, C)

Here we see a long, pointed funnel, more or less twisted, and side-sharpened to cut laterally, ending in a screw point, used by coopers to cut bung or spigot holes in casks, or by cabinet-makers for socketing chair legs, etc.

But because holes too large for the strength of one or even two men were often required, and because it is easier to first bore a small hole and then enlarge it, than to bore a large hole in the first place, another tool, shaped and handled like an auger, but not to be confused with it, because it does not bore at all, is next shown. This is

The Reamer (Fig. 169, D, E, F)

an untwisted, sharp-sided, open half-funnel which only enlarges by side-paring a hole already bored, here illustrated in two varieties (F, E), the pumpborer's reamer, boxed at the bottom to hold shavings, and adjustable as a bit to a long shank, not shown, employed by the old pumpmakers, not to bore holes, but to enlarge holes already bored in pump-trees, or (D) the wheelwright's reamer, a similarly side-sharpened, untwisted but bottomless funnell used by the wheelwright to enlarge wheel-hub-holes. This latter tool as shown in the next picture

The Wheelwright's Hooked Reamer (Fig. 170, A, B, C)

which was sometimes equipped with a round, unsharpened pull hook, which, extending downward from the blade-bottom and attached by a ring or otherwise, to some pulling device, helped in no way to cut, but only to pull the blade through the hole, when the workman standing upon or beside the spoked wheel, laboriously reamed out, *i.e.*, enlarged a hole already bored through its hub.

That the French cartwright (*charron*) used the same reaming tool for the same purpose in 1768, is shown by the appended engraving from Diderot (Fig. 170 C), who unfortunately does not describe the method of using its unique hook, while far more interesting is the fact, as further illustrated in the same photo-engraving,

The Roman Hooked Bit (Fig. 170 E)

that a similar instrument was known to the Romans. The latter, a much-rusted bit, 26½ centimetres (10½ inches)

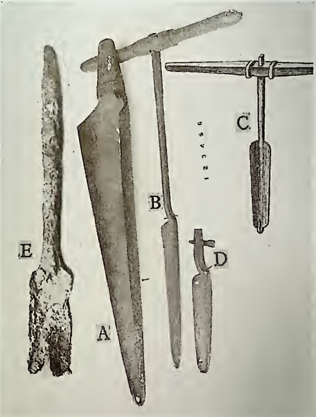


Fig. 170.—The Wheelwright's Hooked Reamer (A, B, C) and Roman Hooked Bit (E)

The gigantic, funnel-shaped steel instrument (A), smith-forged in one piece, 35 inches long, and weighing 26 pounds, sharpened only on the inner concave of its right blade, is equipped at its bottom with a round-sided, unsharpened, down-reaching pull hook, which hook in no way cuts the wood, but when attached to some pulling device, helps to pull downward the blade, while the latter is being twisted through a previously bored hole in a wheel hub.

Its top tang, for the handle, not an equi-sided, but a broad, flat rectangle, and lacking a peg hole, is not centred by inbending over the point of revolution, but rises directly from the blade's circumference. It is adapted for insert and release upon a wooden cross-handle, here missing, slotted to fit it. According to the information (1927) of Abram long, kindly photographed for the writer by Dr. H. Jacobi, Director of Excavations, at the Saalburg, near Homburg, Hesse, Germany, was dug up with other iron tools in a well at the Roman fort. Its hook is very apparent, but as its blade is not tapered, and therefore would not act as a reamer, we must either suppose that its taper has been rusted away, or that its hook has been used not to pull the tool through a previously bored hole, but originally was side-sharpened, as in the duck's bill bit, Fig. 166, to down cut and pull out shavings when boring a hole in the first place.

Stone, born 1854, who, as a wheelwright, used exactly similar smaller tools for this purpose in Doylestown, *c.* 1880, the already-spoked wheel, with its hub hole previously bored, was laid horizontally on a trestle, under which a ring-topped iron rod, threaded at bottom through a hole in a fixed iron cross-bar, projects upward so as to encircle the reamer hook, and by action of its screw, pulls down the reamer, when the workman, standing upon the wheel, twists the reamer's cross-handle, like that shown in Fig. 161 E. Mr. Stone says that his reamer handles, made by himself of oak, and releasable on equi-sided rectangular tangs, were lifted and replaced at each half turn, to save the usual right-to left-hand shift necessary with ordinary fixed auger handles. Also, that some of his reamer tangs were centred, while others, as here seen, were side-set, and that in the latter case, the reamer cut better with certain woods.

(B) shows a smaller variety of the same tool with centred shank and fixed handle and (C) a duplicate, used in 1768, for the same purpose, by the French cartwright, with long iron shank and fixed handle, as illustrated in Diderot's *Encyclopedia,* "Charron," Plate 2, Fig. 2, where, unfortunately, no mention is made of the hook and no better description given of the tool than that it was used "*pour accroitre les trous des moyeux,*"—to enlarge hub holes.

(D) is a pumpmaker's reamer bit, with two holes for attaching a side extension plate, here missing, constructed exactly like Fig. 169 F, except that its bottom is not boxed to pull out shavings, but more cheaply and easily fitted with a flat, unhooked, iron plug for the same purpose, and in no way intended, like the hook, on A and B, to pull the tool through the hole worked upon. Another very curious variety of shaving-pull in a pumpmaker's reamer appears in a specimen with a dull-bottomed corkscrew corner-incure at its blade-base. It is now, 1927, in the collection of Mr. H. K. Landis at Landis Valley, Lancaster County, Pennsylvania.

(E) illustrates a much rusted, but very remarkable hook-bottomed ancient boring bit, dug up at the Roman Fort at the Saalburg, near Homburg, Hesse, Germany, now on exhibition at the Museum there, and here shown by kind permission of Dr. H. Jacobi, its Director. In this case the hook could not have been a pull hook, unless the tool was a reamer, *i. e.,* involving a hole already bored to pull through. But as all reamer blades are tapered and these are parallel, we must suppose either that the taper has been rusted away or that the tool would only cut downward, and that the hook was not a pulling device, but originally side-sharpened to rout out the bottom of the hole and pull up shavings like the duck's bill bit.

(To be continued)

The Isaiah Thomas House, Worcester, Mass.

By U. Waldo Cutler
Executive Director of the Worcester Historical Society

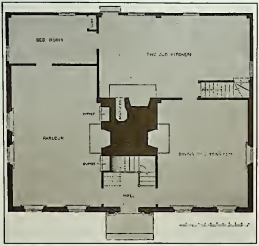
ITS PLAN AND CONSTRUCTION

Based in part on studies by Charles H. Lincoln, Architect, at the time of its demolition in September, 1923.

AN OLD building was recently torn down from behind the Worcester Court House that deserves a place in the memory of students of New England architecture. For the last two generations it had served as a tenement house only, but, in 1782, it was built as a substantial and spacious home. Isaiah Thomas, its builder and first occupant, was then a rising man of affairs, a well recognized patriot, a printer and publisher of much prominence and a prospective author. Six years before he established this home on Court Hill he had been the first to read the Declaration of Independence to a New England audience from the steps of the Old South Church at the head of Worcester Common. Early in 1775, in Boston, he had been the proprietor of the *Massachusetts Spy*. His paper gave offense to General Gage, then in command of the British army there, and he was ordered to give up his business in the chief town of the Bay Colony. After he had taken part in the battle of Concord and Lexington, he resumed his publication at Worcester, and there advanced in wealth and public favor and public usefulness.

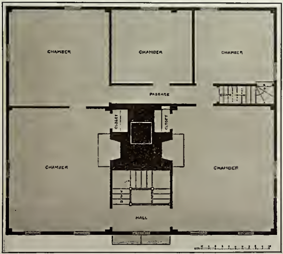
The home he built was expressive of his character. In its original form it seems to have been a representative mansion of the time, simple and dignified in design and stable in construction. The floor plans of this original house, as appears from the study soon to be referred to, may be seen in Figures 1 and 2. After some years of prosperity, with a growing family, a growing library, and a widening call for generous hospitality, Mr. Thomas found it necessary to enlarge the home by adding the wings on the north and south sides and it took the form shown in Figure 3. Again, some time later, in 1808, he made other changes, which will be mentioned in a paragraph to follow — not improvements to the exterior appearance of the building, but adding floor space and household convenience. The floor plans of this period are shown in Figures 4 and 5. After Mr. Thomas's death, in 1831, this already historic dwelling was moved back from its commanding position to a place behind where the Court House now stands. Figure 6, taken from a crude old woodcut of the time, shows it at this stage of its degradation.

Rejoice Newton, father of Mrs. Hester Newton Wetherell, was the immediate successor of Isaiah Thomas as owner of this house, and on April 28, 1851, he sold it to Moses T. Breck, who lived in it till 1866. Mr. Breck



𝔉𝔦𝔤. 1.—𝔥𝔬𝔲𝔰𝔢 𝔞𝔰 𝔒𝔯𝔦𝔤𝔦𝔫𝔞𝔩𝔩𝔶 𝔅𝔲𝔦𝔩𝔱

GROUND FLOOR PLAN



𝔉𝔦𝔤. 2.—𝔥𝔬𝔲𝔰𝔢 𝔞𝔰 𝔒𝔯𝔦𝔤𝔦𝔫𝔞𝔩𝔩𝔶 𝔅𝔲𝔦𝔩𝔱

SECOND STORY FLOOR PLAN

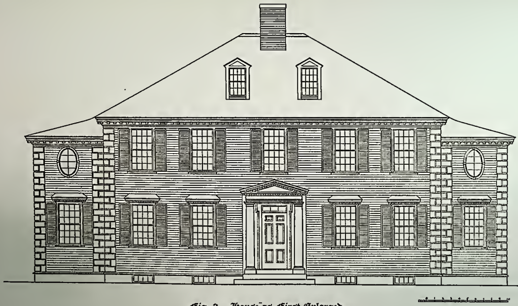


Fig. 3.—House as First Enlarged
FRONT ELEVATION

made few changes and it seems reasonable to assume that the general structural arrangements of that period were those that Mr. Thomas himself produced. Miss Sarah J. Breck, his daughter, remembers various features of which no trace remained in later years. After the Brecks' occupancy the house fell more and more into disrepair, and was variously patched up to make it profitable in the form of tenements, so that its original dignity as a mansion of the Revolution period was almost lost sight of. See Figure 7. In causing its restoration, even if an incomplete one and on paper only, the Worcester Historical Society feels that it has met an obligation due to the past age, and has made some contribution toward historical study in the present day.

The task undertaken was, in imagination, to reconstruct this once highly respectable mansion, with such guidance as could be found in meagre records and by the study of the frame work and the patches and the matchings of old construction to newer, as it all came to light while the wreckers' task was in progress. All this was a most interesting, though difficult problem for a historically minded architect to solve. The Historical Society would gladly have undertaken the actual physical restoration on its rear lot, but that was decided to be too difficult and too costly. A few sections both from the exterior and the interior have been preserved as museum exhibits. The best to be hoped for in the way of saving the house as a whole was such restoration as the skill of a trained architect and the imagination of a skilled antiquarian could produce on paper in the form of drawings and notes. These qualities were found admirably combined in the architect, Charles H. Lincoln, of Worcester. The results of his painstaking and protracted study appear to some extent in the drawings here reproduced. His full and careful report is on file among the archives of the Worcester Historical Society, which, in coöperation with the American Antiquarian Society, employed him to observe in detail the evidences of the evolution of the house as they came to light during its devolution. As the skeleton was gradually laid bare, the construction at its successive stages became evident, and the thought and judgment of its builder were read through this home as he planned it. Besides this, there came the opportunity to observe the methods of building many years ago and the skill in construction when mechanical devices were far cruder than now.

The sources of information, then, available for Mr. Lincoln's study, were the following, the first being by far the most significant:

1. The historic building itself as its features came to light during the process of wrecking.

2. The Isaiah Thomas diary — a few references.

3. The old wood-cut of the house, made at the time of its removal from its original site on Court Hill to its final position at the rear of the Court House.

4. Mrs. Hester Newton Wetherell's pencil diagram of the interior as she knew it after the death of its original owner, drawn from memory about 1890.

5. Miss Sarah J. Breck's recollec-

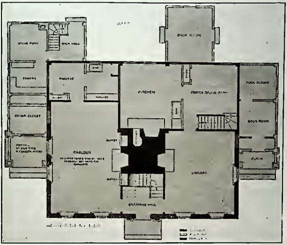


Fig. 4.—House After Changes of 1808
GROUND FLOOR PLAN

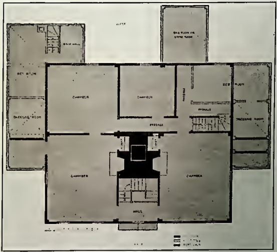


Fig. 5.—House After Changes of 1808
SECOND STORY FLOOR PLAN

tions of the house as she knew it about 1855, only recently noted down.

How well he has succeeded can be only partially realized from what is here presented. The task seems to have been worth while, even with incomplete results, and the dignity of the original structure and the high standing of the builder were worthy of the effort.

A few items from the report may be of sufficient general interest to warrant their mention here in this review, since they serve to show the wide difference between the practices among builders of Isaiah Thomas's day and those of our own time, as well as to illustrate the character of the study made by Mr. Lincoln.

The main uprights or posts of the house were of hewn oak. The main floor timbers and plates were of hewn pine. Practically all joining of the frame timbers was done with mortice and tenon, fastened by oak pins. The original floor joists were chiefly of sawed oak, and were notched into bearing timbers. The original roof was of the hipped type, with rafters pitched at an angle of thirty degrees. At the time this study was made portions of this, including not only much of the timbering above mentioned but also roof boarding with shingles attached, were found in place underneath the later gabled roof as seen in pictures of the house as it appeared in 1923, just before it was torn down. See Figure 7.

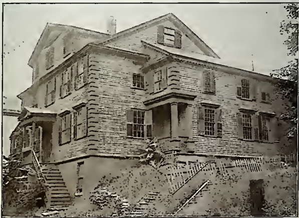
When the wings were first added may never be known, but it must have been at an early date. Entries in the Diary show definitely that extensive alterations were made to them in 1808, twenty-six years after the house was first built. It was also at this time that what Thomas called the "pediment story" was added, which increased floor space but destroyed the architectural dignity and simplicity of the Revolution period.

The excessive size of timbers used in the frames of old houses seems to us now highly extravagant. Estimated from their sectional areas, many of those of the Thomas house would, if recut to modern dimensions, supply the requirements for six houses of the same size and form, built as they would be today, without weakening the construction. The floors were even less rigid and strong under a load than the modern type would be, with their lighter timbering. The prodigious labor expended in handling such huge timbers, in making mortice and tenon and pin joints at the end of each one, in cutting innumerable notched bearings for floor joists throughout the length of each, and in the final assembling of the different parts, is almost inconceivable today. The rule appears to have been to produce the largest possible squared timber from a given log, and to place it regardless of the load it had to support.

All the lumber that was not hand hewn was sawed in the old-type mill, in which a straight saw blade was fixed in a frame driven up and down in slotted guides by power from a water wheel. Boarding of all kinds averaged very wide; an old wainscot panel was found measuring twenty-five inches across. Lining floor boards in the attic were of oak, eleven to eighteen inches in width, but only three-eights of an inch thick. Other lining floors and also the outside enclosing boards of the walls and roof were of white pine of ordinary thickness, but some of them exceeding twenty-three inches in width. The top or finish flooring of the principal rooms averaged very wide, some boards having a width of seventeen inches. This top flooring was of northern hard pine.

Original clapboards and shingles were hand riven, and of hand dressed white pine. The lengths of clapboards were joined by over-lapping beveled joints, nearly two inches on the cut at the thick edge. Where knot holes or open joints of some width occurred in the boarding of the roof, they were covered by pieces of white birch bark before the shingles were nailed down. This was the only instance of such use of bark Mr. Lincoln had observed. If it was an early custom, perhaps it suggested the modern use of builders paper.

The original lathing was of split and expanded boards. Lathing of this kind was probably prepared on the premises. A board one-half inch thick, or less, and of suitable length, was split open with hatchet or chisel into narrow shreds, following the grain, effort being made to have the splits from one end extend past those from the other. If solid wide spaces developed between the rifts, these were treated in like manner, until finally a prepared board could be nailed up along one edge, and, by a pulling or prying process applied at free points, it could be much expanded in width before nailing was completed. In this way irregular spaces were produced, through which, as between modern laths, plaster could be crowded and allowed to harden, forming a bind that would hold the plaster, when dried, securely to wall or ceiling. The modern use of expanded sheet



The Isaiah Thomas House, Worcester
FROM A PHOTOGRAPH SHOWING ITS APPEARANCE AT THE TIME IT WAS TAKEN DOWN

steel for lathing may have originated from this early form of split lathing.

There is hardly a doubt that every nail and spike used in constructing this house was hand forged. They were of varying sizes and proportions for different uses. Among nails of the same size and type different forms of head and point were found. An instance was noted of difference in the finishing nails of the floors in the two front rooms, representing, doubtless, the craft of different smiths or shops. Since repairs and additions were made at different periods, naturally many types of nails were found.

Side members of window frames had solid two and three-quarters inch by three and one-half inch sections. When sash were hung by cords and weights, the latter were of square-section cast iron, moving in grooves cut into the solid frames. Pulleys were of turned wood with brass axles.

Mr. Thomas was the founder of the American Antiquarian Society, and the additions he made to his dwelling were in part for the better housing of his large library, which became the nucleus of the great collections of the institution he created and endowed. There is pathos in the tearing down of a home like this, into which so much of history has been built. It is with feelings of reverence for the past and of respect for those who, in the past, built something more enduring than even their substantial and dignified homesteads, that we submit these memorials to our readers.

VIEW OF I. THOMAS'S HOUSE, WORCESTER, RECENTLY MOVED

An Appeal for the Repair of Barking Church, England

BARKING, in Suffolk, is an agricultural parish of 350 people, a mile to the west of Needham Market. It has the privilege and responsibility of possessing one of the great churches for which East Anglia is famous. This is described by Messrs. Howard and Crossley, in *English Church Woodwork*, as "a typical church of this district in which most of the mediaeval fittings can be seen in conjunction." It is full of interest and most attractive. It possesses a fine series of roofs, a rood screen, parclose screens, a good font with a richly-carved covering, a fine mediaeval south door, interesting vestry doors with ingenious ancient locks, two curious charcoal braziers formerly used for warming the church, a priest's room over an ancient vestry, an early iron-bound chest, the Royal Arms of the time of Charles II, and a considerable number of important fragments of ancient stained glass.

Unfortunately the building is now in a very bad state and the sum of £1,400 is required to place it in sound repair. This sum of money is beyond the capacity of a poor parish with a population almost entirely composed of wage-earning people. In order to make the building safe it is, therefore, necessary to appeal to the generosity not only of church people but to all who value the treasures of the past and that great inheritance of English mediæval art of which the county of Suffolk is the proud possessor.

The following is an extract from a report which the Diocesan Advisory Committee for the Protection of Churches recently made on the condition of this building:—

"This is a most beautiful church, remarkable for its size and proportions and its fine rood screen with side chapels at the East ends of the aisles, still retaining their screens very much as at Dennington and a few other places. There are important remains of old seating and of mediæval glass. The roof, font, and font cover are also valuable and important. The chancel, unfortunately, has shown very serious signs of settlement, particularly at the north-east corner. This has happened more than once before, and attempts have been made to remedy the mischief by buttressing, as long ago as the eighteenth century. The church is beautifully situated, and if it were only taken in hand in the proper manner, it could be made a most charming and altogether satisfactory building. Any further neglect may have very serious consequences and the expense may easily be doubled and trebled by delay."

The eminent architect, Mr. W. A. Forsyth, has now made two reports upon Barking Church, and the following is a very brief summary of the principal repairs which he finds to be necessary:—

Make good the lead roofs of aisles, vestry and porch.

Rebuild East wall and window.

Renew the defective timber of Chancel roof and cover with tiles.

Remake five windows, carefully preserving the old glass.

Overhaul roof of tower.

Barking Church, Suffolk Co., England

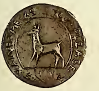
Cut out rotten floor boards in Nave and aisles and renew.

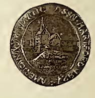
Repair staircase and flooring of priest's chamber.

The estimate for these repairs is £1,400.

SUBSCRIPTIONS will be gratefully received and acknowledged by the Church wardens, or the Rector, the Rev. S. H. De la Bere, Barking Rectory, Needham Market, Suffolk County, England.

EDITORIAL NOTE:—We are glad to give publicity to the following English appeal for help towards the preservation of an interesting parish church, and are able to do so since the architect's plans have the approval of the Society for the Protection of Ancient Buildings.





American Numismatic Association Medal

By MALCOLM STORER, M.D.

THROUGH the courtesy of Mr. George S. Godard the Society has recently received the medal or badge of the 1927 meeting of the American Numismatic Association, at Hartford.

Ob: hand VALVE.ME.AS.YOV.PLEASE star. In circle a stag to left. Below, on shield, III.

Rev: AMERICAN NUMISMATIC ASSN. HARTFORD. 1927. In circle a view of Newgate Prison as it originally stood. Below, to right, OLD NEWGATE/PRISON/GRANBY.CONN. 29 mm.

The medal was designed by Mr. George S. Godard, State Librarian of Connecticut.

It is very fitting that the Association should have taken for the design of its Hartford Convention medal a representation of the Granby or Higley copper as this is one of the most interesting early American coins. About 1740, monetary conditions in Connecticut were in a very bad way. There was no small change. Back in 1721 there had been current certain "black dogges." We do not know what they were as none have come down to us. We only know that they passed for two pence. In 1739, John Read of Boston but born in Connecticut, from whence he removed in 1722, petitioned that he be given the right to coin copper money made from the native ore but no notice was taken of his request. Previously, however, in 1737, John Higley, a blacksmith of Granby, Connecticut, began to strike coins from the copper coming from his mine at Copper Hill in that town, then part of Simsbury. These were the invention of his brother, Dr. Samuel Higley, and wholly unauthorized but were apparently eagerly accepted for the value put on them on account of the prevailing scarcity of small change. They were of four types:—

1. Ob: VALVE ME AS YOU PLEASE Stag standing to left.
Rev: I AM GOOD COPPER/1737 Three sledge hammers surmounted by crown.

2. Ob: As last.
Rev: J CUT MY WAY THROUGH In circle, a broad axe.

3. Ob: Stag.
Rev: VALUE ME AS YOU PLEASE Three broad axes surmounted by crown.

4. Ob: CONNECTICUT Stag to left.
Rev: I AM GOOD COPPER Three sledge hammers surmounted by crown.

A number of dies were used giving minor variations.

These three penny tokens are said to have passed current for two shillings and sixpence of the depreciated paper currency. Legend has it that Higley was a jovial soul and coined the tokens chiefly to pay his score at the tavern. Dickenson says that Higley subsequently counterfeited other coins, or is rumored to have done so. According to another tale he was a doctor but probably that means that almost everybody in those days did a little doctoring or that in conjunction with being a blacksmith he at the same time attended to his horses' ailments. In spite of his questionable habits he came of good family. It was his father who was the Capt. John Higley who, in 1695, was the largest tax payer in the state and his sister was Hannah, who married Joseph Trumbull and was the mother of the first Governor Trumbull ("Brother Jonathan").

As stated on the tokens they were of good copper, so good, in fact, that they were eagerly picked up by goldsmiths to be used as alloy in gold work. Consequently now they are very rare, a good specimen bringing easily a hundred dollars.

The Granby or Simsbury mines produced more or less copper for many years. Mr. Edmund Quincy of Boston was working them when the Revolution broke out and they had to be abandoned. In 1773 an act was passed making of "the subterraneous caverns and buildings on the copper mines at Simsbury a public goal and workhouse for the use of the Colony," to which was given the name of Newgate Prison. They were found totally unfitted for this purpose but it was not until 1827 that the prison was given up.

Higley's work was of surprisingly good quality for the time and it is a great pity that his talents as a die cutter were not called upon to execute a state coinage which would have gone far to meet a pressing public need.

The writer had a rather curious experience with one of these Granby tokens. It was the habit of his grandfather, practicing medicine some hundred years ago, to throw into a drawer all the uncurrent money that he received in the way of fees. After his death I looked over these five hundred or so coins and found a mass of common European coppers but among them was a beautiful Granby token which now graces the collection at Harvard.

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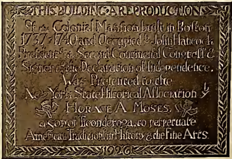

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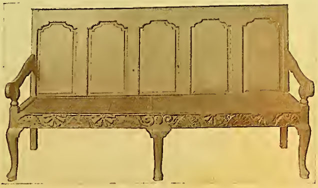

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